(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
22 August 2002 (22.08.2002)

PCT

(10) International Publication Number
WO 02/063993 A2

(51) International Patent Classification[7]: A45F 5/00

(21) International Application Number: PCT/IB02/00418

(22) International Filing Date: 13 February 2002 (13.02.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
01/1219 13 February 2001 (13.02.2001) ZA

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(81) Designated States *(national)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW.

(84) Designated States *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR,

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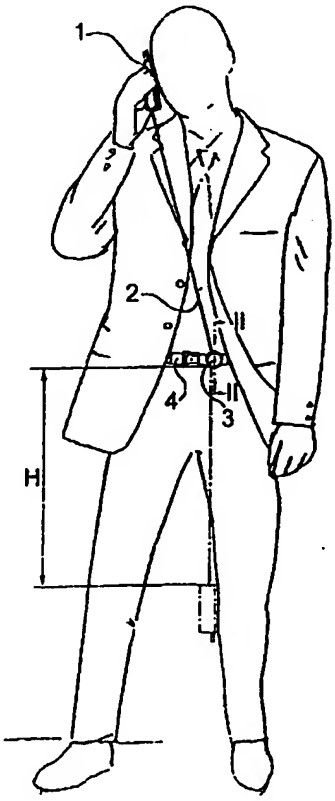
(54) Title: SECURITY DEVICE FOR CELLULAR TELEPHONES



(57) Abstract: The invention concerns a security device for a cellular telephone (1). The device makes use of a cord (2) which is wound retractable on a spring-loaded spool (6) in a casing (3). A spring clip (8) is mounted rotatably to the casing and can be attached to a belt (4) or the like worn by a user of the telephone. An adhesive attachment is provided for adhering a free end of the cord directly to a surface of the cellular telephone.

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GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— *without international search report and to be republished upon receipt of that report*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

"SECURITY DEVICE FOR CELLULAR TELEPHONES"

BACKGROUND OF THE INVENTION

THIS invention relates to a security device for a cellular telephone.

The device of the invention is intended to avoid damage to a cellular telephone should the telephone be dropped accidentally and to reduce the risk of theft or misplacement of the telephone.

SUMMARY OF THE INVENTION

According to the invention there is provided a security device for cellular telephones, the device comprising a cord wound retractably on a spring-loaded spool in a casing, a spring clip mounted rotatably to the casing by means of which the casing can be attached releasably to a belt or the like worn by a user of the telephone, and adhesive attachment means whereby a free end of the cord can be adhered directly to a surface of a cellular telephone. In the preferred embodiment, the spring clip is mounted to the casing for rotation about the spool axis.

Preferred features of the security device are defined in the appended claims.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention will now be described in more detail, by way of example only, with reference to the accompanying drawings in which:

Figure 1 illustrates a security device according to the invention in use;

Figure 2 illustrates details of the security device;

Figure 3 shows a partially cut away perspective view of the security device; and

Figure 4 shows a detail of an alternative arrangement for attaching the cord to a telephone.

DESCRIPTION OF PREFERRED EMBODIMENTS

Figure 1 shows a cellular telephone 1 connected at one end of a cord 2. The opposite end of the cord 2 is wound onto a spring-loaded spool in a round casing 3. As described below in more detail, the round casing 3 carries a belt clip which allows it to be connected to a belt 4 worn by a user of the telephone 1.

As illustrated in Figure 2, on the inside of the round casing 3 there is a central pivot 5 on which the spool 6 can rotate. The end of the cord 2 is attached to the spool. The numeral 7 indicates a coil spring one end of which is fixed to the pivot 5 and the other end of which is fixed to the spool. Tension in the spring urges the spool to rotate in a sense to wind up the cord 2 on the spool, i.e., to retract the cord into the casing 3.

In Figure 2 the belt clip is indicated with the numeral 8. The belt clip 8 is made of flat spring steel and is connected rotatably by a screw to the casing 3 at the axis of the pivot 5. The clip has basically a U-shape and includes an inner arm 8a which is parallel to the side of the casing 3 and through which the screw passes to secure the clip to the casing. The clip also has an outer arm 8b that is inclined towards the outer surface of the inner arm 8a. The free end 8c of the arm 8b is bent outwardly as illustrated.

As indicated previously, one end of the cord 2 is fixed to the spool 6 and retracts and coils around the spool 6 under the action of the spring 7. The cord passes out of the casing 3 through a hole (not visible) in the edge of the casing. Referring to Figure 3, the other end of the cord 2 is connected via a ring 9 to a spring clip 10 as indicated by the numeral 2a. The belt clip 10 is clipped releasably to a ring 11 which itself passes through a hole in a lug 12 extending perpendicularly from one side of a disc 13.

The lug 12 and disc 13 together form a telephone attachment element and are moulded in one piece of a suitable plastics material.

The inner surface 13a of the disc 13 carries an adhesive material 14 by means of which the disc can be adhered directly to the rear surface 15 of the telephone 1.

Figure 4 illustrates an alternative and somewhat simpler arrangement. In this case a ferrule 16 is fixed to the end of the cord 2 and carries a split ring 17 of spring steel wire which passes through a hole in the lug 12 which is, as in Figure 3, moulded in one piece with the disc 13 to form a telephone attachment element. Figure 4 also shows a patch 18 of double sided tape which has one surface stuck to the base of the disc 13. The opposite surface of the patch 18 is initially covered by a film 19 and can be exposed by peeling off the film. Once exposed, the surface can be stuck directly to the rear surface of the cellular telephone.

A preferred double-sided tape which can be used in the Figure 4 configuration is one manufactured under the product designation Scotch™ VHB™ by 3M Industrial Specialities.

The cord 2 typically has a length in the range 70 to 80cm, as indicated by the letter H in Figure 1. This allows the telephone 1 to be pulled upwardly by the user, against the action of the spring 7, from a fully retracted position where it locates adjacent the casing 3 on the belt 4 to an extended, operative position adjacent the user's cheek as shown in full lines in Figure 1. For an adult of normal height, this length also ensures that should the telephone be dropped accidentally it cannot reach the ground even with full extension of the cord , as indicated in broken outline in Figure 1.

The spring 7 is selected to have sufficient strength to retract the cord 2 and telephone 1 from the dropped position illustrated in broken outline in Figure 1. Thus it will be understood that the telephone will automatically be retracted to the fully retracted storage position adjacent the belt 4 without assistance from the user himself. This is of course and important advantage in that the user can always be sure that the telephone is always retracted to a secure and convenient position.

The rotatable nature of the clip 8 enables the casing 3 to be clipped at any desired orientation to the belt. Some users may, for instance, prefer to clip the casing to the belt at the orientation seen in Figure 2, i.e. with the end 8c of the clip at the bottom, while other users may prefer to clip the casing to the belt with this end upwardly. Rotatability of the clip relative to the casing also enables the user to orientate the telephone at the most comfortable angle for each body position. He may, for instance find it most comfortable to orientate the casing so that the cord 2 emerges laterally from it when he is in a sitting position, and so that the cord emerges downwardly from it when he is standing. To move from one orientation to the other he can merely rotate the casing as appropriate relative to the clip 8 or, where the rotational connection between the clip and casing is sufficiently free, allow the casing to reorientate itself automatically.

Apart from the features noted above, an advantage of the illustrated security security device is the fact that it is can easily and quickly be fixed to virtually any type of cellular telephone.

CLAIMS

1.

A security device for a cellular telephone, the device comprising a cord wound retractably on a spring-loaded spool in a casing, a spring clip mounted rotatably to the casing by means of which the casing can be attached releasably to a belt or the like worn by a user of the telephone, and adhesive attachment means whereby a free end of the cord can be adhered directly to a surface of a cellular telephone.

2.

A security device according to claim 1 wherein the spring clip is mounted to the casing for rotation about the axis of the spool.

3.

A security device according to claim 2 wherein the spring clip comprises a U-shaped element of flat spring steel having inner and outer arms arranged to embrace between them a belt worn by a user.

3.

A security device according to either one of the preceding claims wherein the adhesive attachment means comprises a telephone attachment element to which the cord is connected and which has a flat surface carrying adhesive means attachable to the surface of the telephone.

4.

A security device according to claim 3 wherein the adhesive means comprises double-sided adhesive tape one surface of which is adhered to the flat surface and the other surface of which, prior to use, is covered by a peel-off film.

5.

A security device according to any one of the preceding claims wherein the cord has a length in the range 70cm to 80cm.

6.

A security device according to any one of the preceding claims wherein the spool is loaded by a spring having sufficient strength to wind in the cord with a cellular telephone connected to the end of the cord.

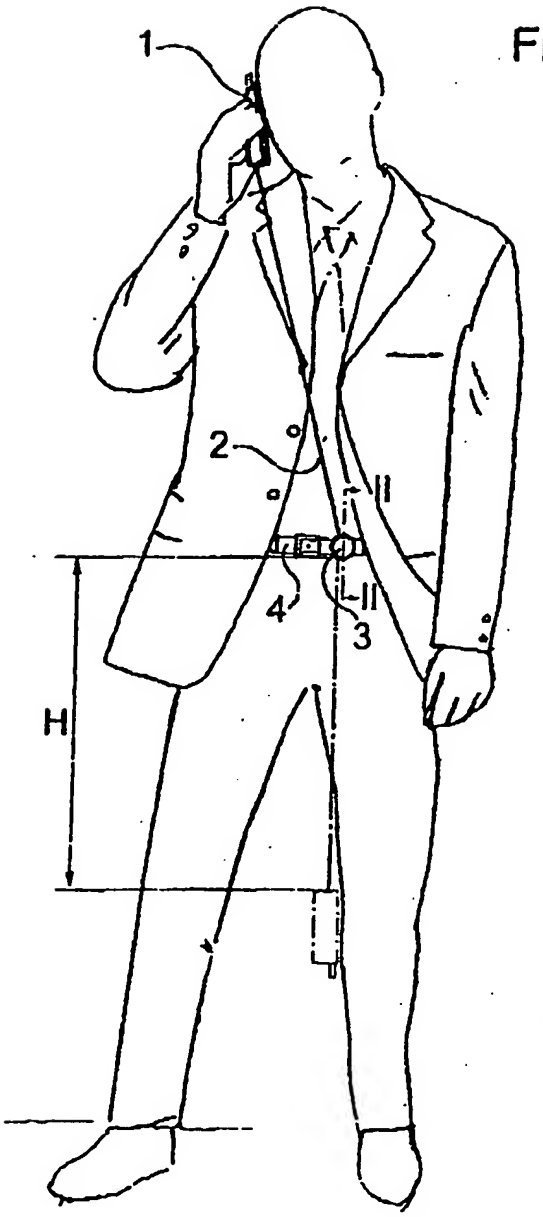

Fig.1

Fig.2

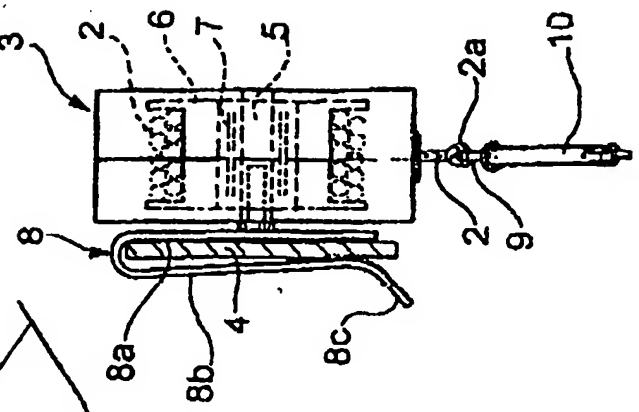

Fig.3

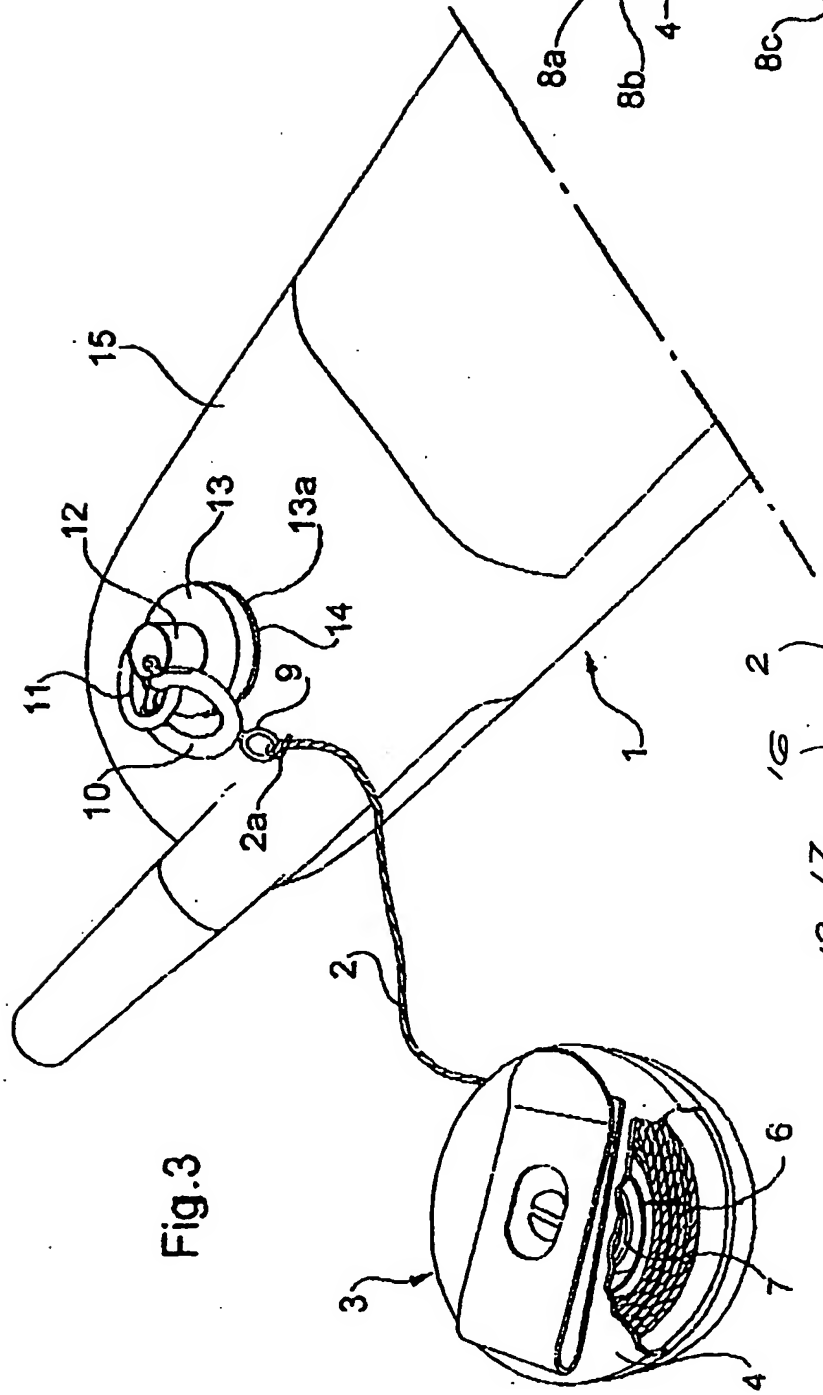

Fig.4